DOCUMENT RESUME

ED 062 715 EA 004 299

AUTHOR Haggart, Sue A.
TITLE Increasing the Effective Use of Analysis Through Program-Oriented Management.
PUB DATE Apr 72
NOTE 12p.; Paper presented at American Educational Research Association Annual Meeting (57th, Chicago, Illinois, April 3-7, 1972)

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS Cost Effectiveness; Educational Planning; *Management; Management Systems; Organization; *Organizational Climate; Planning; *Program Effectiveness; *Programing; School Organization; Speeches; *Systems Analysis

ABSTRACT

Current school district organization fails to provide the environment necessary to develop and use analytical techniques in educational planning. Current organization often acts as a barrier to the acceptance of the results of analysis. A program-oriented management system enhances the environment for systems analysis and promotes both the acceptance of analytical techniques and the results of analysis. (Author/RA)

ED 062 715

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# INCREASING THE EFFECTIVE USE OF ANALYSIS THROUGH PROGRAM-ORIENTED MANAGEMENT

Sue A. Haggart

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# INCREASING THE EFFECTIVE USE OF ANALYSIS THROUGH PROGRAM-ORIENTED MANAGEMENT

Sue A. Haggart*

The Rand Corporation, Santa Monica, California†

Analysis plays a key role in the search for ways to achieve equal educational opportunity, to make better use of resources and to measure the outcomes of the eudcational process. To date, analysis has had to travel a rough path within the educational community, wavering between acceptance as a panacea and rejection as a useless waste of time. This paper delineates some of the problems analysis has encountered and proposes a program-orientation to the management of school district operations as a means of increasing the effective use of analysis in school district planning.

The meaning of "program" as used in program-orientation is defined and the rationale for recommending orientation rather than organization is developed. But, before getting into the discussion of the proposed solution, it might be a good idea to describe, very briefly, the role of analysis in educational planning and the nature of the school district environment in which analysis lives.

## ANALYSIS IN SCHOOL DISTRICT PLANNING

In general, and for the purposes of this paper, "analysis" is broadly defined to mean any of the activities involved in the systemmatic or orderly consideration of a problem and alternative solutions to the problem. The goal of the analysis is not to provide a number answer; it is rather to increase the understanding of the nature of the problem, the consequences of different solutions and the feasibility of alternative courses of action. The method of

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*This paper was prepared for presentation at the annual meeting of the American Educational Research Association, April 3-7, 1972 in Chicago, Illinois.

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analysis operates to quantify only that which it makes sense to quantify and to spell out those considerations that cannot be quantified. This was pointed out by Fisher:

> First of all we must be very clear about what the purpose of analysis really is--particularly in a long-range planning decision context. Contrary to what some of the more enthusiastic advocates of quantitative analysis may think, I tend to visualize analysis as playing a somewhat modest, though very significant, role in the overall decisionmaking process. In reality most major long-range planning decision problems must ultimately be resolved primarily on the basis of intuition and judgment. I suggest that the main role of analysis should be to try to <u>sharpen</u> this intuition and judgment. In practically no case should it be assumed that the results of the analysis will "make" the decision. The really interesting problems are just too difficult, and there are too many intangible (e.g., political, psychological and sociological) considerations that cannot be taken into account in the analytical process, especially in the quantatitive sense. In sum, the analytical process should be directed toward assisting the decisionmaker in such a way that his intuition and judgment are better than they would be without the results of the analysis.*

This statement bounds the scope of analysis and is especially true in the environment of school district analysis. As will be discussed shortly, many of the problems in the acceptance of analysis in education can be traced to trying to <u>make</u> the decision through the use of analysis to generate the <u>right</u> answer. Given the broader charter for analysis, is there a place for analysis in school district planning? In essence, does the school district have any choices or are most of the potential choices mandated from outside the district.

It is the contention of this paper that the school district planners do have choices to make and that the data on which such choices are made exist only at the school district level. In fact, the necessary data may only be found at the school or classroom level of the educational process. The role of analysis, then, is properly placed at these levels and the purpose of analysis is to illuminate the basis for decisions affecting the process at these levels. In this way, analysis can generate, or identify, choices that are unique to a

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*Fisher, G. H., *The World of Program Budgeting*, The Rand Corporation, P-3361, May, 1966, p. 11.

particular school or classroom situation and can do so within the limitations of analysis as outlined above.

As the appropriate use of analysis develops within the school district level of operation, an increased use of analysis should follow. Not for the sake of increasing the use of analysis but because of the benefits that can be achieved. In addition to the always present pressure to make better use of the scarce resources, there is a need to increase the understanding of the process of education, to find, if possible, the cause-and-effect relationships as well as resource-effectiveness relationships. It could be argued that the appropriate use of analysis will not increase its use. That may be. But the findings suggest rather strongly that the inappropriate use of analysis has been the major obstacle encountered. A short example should serve to make this point.

In one case, the cost-effectiveness ratio of an English course was determined to three decimal points. In the context of the example, this was wrong for several reasons: First, the purpose of cost-effectiveness analysis is not to identify the activity that "gives the most for the least" as was being done. (There is a discussion of the use of cost-effectiveness analysis in educational planning in the October, 1970, Educational Technology.) Second, the level of detail was inappropriate to the problem. The cry was that English cannot be quantified that precisely. This is probably true and not just for English. But the point is that analysis received the blame for the idiocy. Actually, the idiocy was trying to select the best course solely on the basis of the cost-effectiveness ratios of several courses. Had the analysis been structured to shed light on the differences in method, in resource use and in outcome, the cost-effectiveness ratio would have been a helpful part of all the data, both quantitative and qualitative, needed to make the choice from among the several alternatives. Examples such as this are all-too-commonplace in recent educational literature on analysis for educational planning. They provide substance to the arguments of those against analysis, either in theory or practice.

Another obstacle to the acceptance of analysis arises from the route analysis has taken into the arena of educational planning. This route can be

characterized as being the service route--the logistics of education. Pupil transportation, food service, student scheduling and maintenance of school buildings have all been successfully subjected to analysis and the results have been accepted. The reasons may be several: the analysis was designed to seek answers to very specific questions; these areas are more easily quantified and the analytical techniques were well-developed in non-educational transportation and food service and school district operations in these areas are not unique. All are logical reasons. More to the point, perhaps, is that none of these applications really tinkered with the human process of education. This fear has been, and still is, the strongest obstacle of the effective use of analysis in educational planning.

In addition to the fear of analysis, there are several reasons for the difficulties that analysis has encountered. Most important among these are the non-involvement of the staff and the lack of a focal point for the activities of analysis and for the results of the analysis. These difficulties have to be overcome, if analysis of the educational process, per se, is to enjoy the same acceptance it has enjoyed in the peripheral areas of planning.

## IMPROVING THE EFFECTIVE USE OF ANALYSIS

If the role and scope of analysis as discussed above can be recognized and accepted, it is possible that analysis can be accepted and can make a contribution to educational planning. Actions to facilitate the acceptance of analysis might include curricular changes in the schools of education and of educational administration. Extensive in-service training of current administrators, specialists, coordinators and teachers could be initiated. Both of these actions take time, and money, but seem to have the best chance of lasting change in improving the effectiveness with which educational resources are used. In the short run the analytical function can be contracted out as other services are. This practice has some drawbacks. One of the most obvious is the likelihood that communication between the school district and the consultant will be insufficient to yield useful results. That is, quick studies or services of a routine nature will not result in improving the analytical capability of the district planner.

The mention of the district planner raises, again, the point about the need for an analytical focal point within the district. In a small district, this focal point must, of necessity, be the superintendent or a member of his staff--both doing double or triple duty. In larger districts, the focal point may by coterminous with the responsibility for other activities. Neither arrangement actually promotes the use of analysis. What is needed is a recognized, single point through which the data about the educational system--its performance relative to its goals--should flow. When this focal point is operating, there is a natural communication flow evident within the district. Those with problems know where to seek answers or assistance in solving their problems. Those who have been guarding (or hoarding) data are more inclined to share their data and knowledge. An example of guarded data might be data about the staff...where they are located, what function they are performing, what their qualifications are and so forth. These data are necessary in order to assess alternative plans, not just to permit payroll calculations.

Another action to improve the use of analysis could be a complete reorganization of the school district by the goal-related products of the school system and the activities needed to achieve the goals. It is not the purpose of this paper to discuss what the educational goals are or should be. It is assumed that goals do exist, that the activities engaged in do contribute to meeting the goals and that these activities are grouped into something identified as "programs". It is further assumed that the programs are both instructional and non-instructional in terms of goals. For the purpose of this paper, the program structure of the Educational Resources Management System is used.* This program structure is shown in Fig. 1. The program elements of the instructional programs are today's subjects. The program elements of the Management Program are shown in Fig. 2. A program-oriented management approach would result in collecting resource and performance data by program and would support the analysis of alternatives in a program sense.

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*_Educational Resources Management System_, published by the Research Corporation of the Association of School Business Officials, Chicago, Illinois, January 1972, pp. 120-121.

| Program | Subprogram |
|---|---|
| Intellectual Skills Development | Communication Skills<br>Computation Skills<br>Reasoning Skills |
| Understanding the Environment | Culture<br>Behavioral Sciences<br>Life Sciences<br>Physical Sciences |
| Personal Development | Physical, Social and Emotional<br>Student Activities<br>Pupil Personnel Services |
| Exploratory Studies | The Arts<br>Languages<br>Occupations<br>Professions<br>Practical Arts |
| Preparatory/ Post-Secondary Education | Subjects |
| Preparatory/ Post-Secondary Employment | Subjects |
| Management | Superintendent<br>Planning<br>Program Coordination<br>Program Operation<br>Management Services |
| Educational Media Services | Library<br>Audio/Visual<br>Computer-Assisted Instruction<br>Educational Television |
| Facilities Services | Operation<br>Maintenance<br>Security<br>Central Services |
| Pupil Services Community Services | Food<br>Transportation |

*Fig. 1--School District Program Structure*

*Educational Resource Management System*

| Program | Subprogram | Program Element |
|---|---|---|
| Management | Superintendent | |
| | Planning | Research<br>Program Development<br>Program Analysis<br>Program Evaluation<br>Facilities Acquisition<br>Staff Development<br>Coordinated Planning-Other Agencies |
| | Program Coordination | Responsibility Centers<br>Federal Programs<br>Special Program Coordinator<br>In-Service Education |
| | Program Operation | Intellectual Skills Development<br>Understanding the Environment<br>Personal Development<br>Exploratory Studies<br>Preparation/Post-Secondary Education<br>Preparation/Post-Secondary Employment<br>Educational Media<br>Facilities Services<br>Pupil Services<br>Community Services |
| | Management Services | Financial/Fiscal<br>Accounting/Budgeting<br>Information<br>Personnel<br>Statistical Reporting<br>Resource Control<br>Cost Analysis |

*Fig. 2--Program Element Detail of the Management Program*

## PROGRAM-ORIENTED MANAGEMENT FOR SCHOOL DISTRICT PLANNING

This section discusses program-oriented management for school planning. The point is made that a program-oriented approach promotes the use of analysis by providing a focal point for collecting data about operations and by providing the channels of communication needed for making decisions. This point can best be made by trying to identify the focal point of analysis and the communication channels within both the traditional organization structure and the program-oriented structure.

The major administrative titles used by the larger school districts are shown in Fig. 3. In smaller districts, the superintendent has an assistant or associate superintendent, usually for business services. As the enrollment increases, associate or assistant superintendents are added for instructional services, for personnelservices and then for elementary and for secondary education, if applicable. Again in relation to size, directors, supervisors, coordinators and specialists are added as active administrators. Because most of these positions are added according to formula, there is almost a straight line relationship between the number of students and the number of administrators. The significant feature to notice is that, unlike a program-oriented structure, the traditional organizational structure does not reflect the activities of the educational process. It reflects, for the most part, items that are purchased, services that are performed and school levels that are managed.

Assume, for sake of illustration, a reading problem exists in the district. The identification of the problem and the search for alternative courses of remedial action reside logically <u>within</u> the reading program. With a program-oriented management approach, the data necessary to evaluate the actions are available within the program, the staff with knowledge to make a choice are within the program and the responsibility for making the decision lies within the program. The reading teachers, the reading specialists, the staff concerned with the progress of the reading program are all involved in the process of change. Contrast this with the traditional organizational situation.

Superintendent
Administrative Assistant

Associate Superintendent, Business

Assistant Superintendent, Elementary
Assistant Superintendent, Secondary

Directors

- Plans and Construction
- Personnel
- Maintenance and Operation
- Compensatory Education
- Research and Evaluation
- Finance
- Food Services
- Federal Projects

Supervisors

- Child welfare and attendance

Coordinators

- Bilingual Programs
- Business & Student Placement
- Guidance
- Vocational Education
- Educational Facilities
- Special Education

Other Staff

- Psychologists
- Attendance Counselor
- Audio-Visual and Library Consultant

*Fig. 3--Major Administrative Titles in Typical Organization of School Districts*

Who identifies the problem in the traditional organizational structure? How timely is the identification? How long does it take (on a one-time basis) to gather the necessary data to generate alternative programs and to evaluate them? These are the important differences between the two approaches to the management of the educational process. With the program-oriented management there is a focal point for the flow of timely information about both the problem and the alternative solutions and there are clear lines of communication among all concerned. The teachers who are most actively involved in the problem have a voice in the decisionmaking process. All of these conditions are necessary to analysis that seeks to increase the understanding of the nature of the problem as well as provide information about the dimensions of the problem.

These conditions--availability of data, involvement of staff, focal point for data flow and defined channels of communication--provide an environment conducive to analysis. The program-oriented approach acts as a catalyst in achieving this environment. Data about the cost of activities, about the expected and achieved effectiveness of the activities, and about the staff required to carry out an activity are all collected, organized and analyzed in terms of <u>programs</u> that are groupings of activities related to accomplishing the goals of the district. These programs, in effect, provide the common understanding of what is going on in the district. The program-oriented approach integrates the activities of all schools in the district with the central district staff and with each other; the management focus is not on the school as an organizational entity but on the programs that the school is operating and on how well the programs are going. The program-oriented approach supports this focus by providing the programmatic framework for doing the analysis.

The question of who actually does the analysis has not been explicitly answered. The program elements of the Management Program shown in Fig. 2, describe the focal point for analysis as being in the subprogram of Planning. Within this subprogram of planning there are program elements of Research, Program Development, Program Analysis and Program Evaluation. Each of these activities may be the responsibility of one individual--the superintendent--

or of several individuals. The number of people involved is not important. What is important? Three conditions are: (1) the need for the analytical function has been recognized and made an identifiable component of the management activities of the district; (2) data about the educational activities of the district are available by program; and (3) staff members with working knowledge about their programs are actively involved in the management process...the program-oriented management process.